

### REMARKS

Applicant hereby adds new claims 75-77 and accordingly claims 41-77 are pending in the present application.

Claims 41-74 stand rejected under 35 U.S.C. § 102(e) as being anticipated over U.S. Patent No. 5,847,467 to Willis et al.

Applicant respectfully traverses the rejections and requests allowance of all pending claims.

Regarding the rejections over the prior art, Applicant notes that the Wills reference has been of record in the present application by the IDS filed by Applicant on February 5, 2002 which accompanied the original filing of the application. Applicant further notes that Examiner Greene initialed the Willis reference on the form PTO-1449. The initialization indicated that *all claims were considered by the Office to recite patentable subject matter over the Wills reference*. Applicant respectfully asserts the previous position of the Office is correct, and in view of the following, Applicant respectfully submits the rejection of the claims over the Wills reference is improper and should be withdrawn.

Referring to the anticipation rejections, Applicant notes the requirements of MPEP §2131 (8<sup>th</sup> ed., rev. 2), which states that TO ANTICIPATE A CLAIM, THE REFERENCE MUST TEACH EVERY ELEMENT OF THE CLAIM. This MPEP section further states that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single

prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The **identical invention** must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The **elements must be arranged as required by the claim**. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

Initially, referring to claim 41, the integrated circuit device is clearly claimed to recite the *semiconductor die comprises synchronous-link dynamic random access memory circuitry*. The Office Action states that on page 2 that reference 14 allegedly discloses the claimed semiconductor die. However, Wills is devoid of any disclosure or suggestion of the die comprising synchronous-link dynamic random access memory circuitry as claimed. In fact, Applicant has *electronically searched* the Wills reference and has failed to uncover any reference to the above-recited claim limitations. Claim 41 is allowable for at least this reason.

Still referring to claim 41, the device also recites the *housing positioned between substantially an entirety of the heat sink and the semiconductor die*. The Action on page 3 identifies references 30, 34 as allegedly disclosing the claimed housing. Referring to Figs. 3-4 of Willis relied upon by the Office, Applicant submits that no portions of references 30, 34 taken alone or in combination with one another are positioned between any portion of the heat sink and the semiconductor die. This additional limitation is not disclosed nor suggested by the prior art and claim 41 is allowable for this additional reason.

For at least the above-mentioned reasons, Applicant submits that the teachings of the prior art fail to disclose limitations arranged as required by claim 1. In accordance with the MPEP, the rejection of claim 1 is improper for at least this reason.

In the event that a rejection of claim 41 is maintained with respect to the prior art, or a new rejection made, Applicants respectfully request identification *in a non-final action* of elements which allegedly correspond to limitations of the claims in accordance with 37 C.F.R. §1.104(c)(2). In particular, 37 C.F.R. §1.104(c)(2) provides that *the pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified*. Further, 37 C.F.R. §1.104(c)(2) states that the Examiner must cite the best references at their command. When a reference is complex or shows or describes inventions other than that claimed by Applicants, the particular teachings relied upon must be designated as nearly as practicable. The pertinence of each reference if not apparent must be clearly explained for each rejected claim specified. Applicants respectfully request clarification of the rejections with respect to specific references and specific references teachings therein pursuant to 37 C.F.R. §1.104(c)(2) in a non-final Action if any claims are not found to be allowable.

The claims which depend from independent claim 41 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Referring to claim 48, numerous limitations of the claimed device are not disclosed nor suggested by the prior art and the rejection is improper for at least this reason. For

example, claim 48 recites *at least one electrical lead and at least one heat dissipation lead*.

The Action at page 3 recites reference 20 as allegedly disclosing the claimed heat dissipation lead and electrical lead. Applicant disagrees with the interpretation of the Wills teachings. As is clearly disclosed in cols. 3-4 of Wills, reference 20 refers to a lead frame which provides electrical connection via bond leads 24 to chip 14. Wills is void of any teaching or suggestion of lead frame 20 providing any dissipation of heat. In addition, claim 48 clearly recites the *heat sink comprising the heat dissipation lead extending outward of the housing configured to release heat outside of the housing*. As is apparent from the Figs. of Wills, there is no disclosure or suggestion of the heat sink 16, 32 comprising a lead. These limitations are not disclosed nor suggested by Willis and claim 48 is allowable for at least this reason.

Further, Wills fails to disclose or suggest the limitations of claim 48 reciting the *heat dissipation lead and the electrical lead extending outward of the housing within different planes at the surface of the housing*. Claim 48 is allowable for this additional reason.

Numerous limitations of claim 48 are not disclosed nor suggested by the art and claim 48 is allowable for at least this reason.

In accordance with the above-recited CFR authority, Applicant respectfully requests issuance of a non-final action by the Office if claim 48 is not allowed so Applicant may appropriately respond during the prosecution of the present application.

The claims which depend from independent claim 48 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Referring to claim 53, the claimed device clearly comprises a **first lead frame**, a semiconductor die secured to the first lead frame, and a **second lead frame comprising a heat sink** thermally coupled with the semiconductor die. The Office on page 4 recites the single reference 20 of Wills as allegedly disclosing both the first lead frame and the second lead frame. However, the teachings of Wills are clear that reference 20 refers to one lead frame at col. 3, lines 50-55. The Action on page 4 identifies reference 16 as allegedly disclosing the claimed heat sink. However, Wills is void of any teaching or suggestion that reference 20 (i.e., the lead frame) comprises the heat spreader 16 as baldly alleged by the Office. There is no teaching or suggestion that the heat spreader 16 is embodied as a lead frame. The teachings of Wills relied upon by the Office in support of the 102 claim fail to disclose or suggest plural lead frames or that one of the lead frames comprises a heat sink as claimed.

Numerous limitations of claim 53 are not disclosed nor suggested by the art and claim 53 is allowable for at least this reason. In accordance with the above-recited CFR authority, Applicant respectfully requests issuance of a non-final action by the Office if claim 53 is not allowed so Applicant may appropriately respond during the prosecution of the present application.

The claims which depend from independent claim 53 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

For example, referring to claim 57, Wills is void of any disclosure or suggestion of *portions of a first and a second lead frame extending from the same side of the housing* as claimed. The Action fails to identify any teachings of the prior art which allegedly disclose limitations of claim 57. Applicant respectfully requests issuance of a non-final Action to identify appropriate prior art teachings if claim 57 is not allowed so Applicant may appropriately respond.

Referring to claim 63, the device comprises a *heat sink comprising a lead* and at least portions of a *first and the second lead contact a common surface of the housing*. The Wills teachings relied upon by the Office on page 4 of the Action and the remaining teachings of Wills fail to teach or suggest the *heat sink comprising one of plural leads*, or the *plural leads* (including a lead of the head sink) *contacting a common surface of the housing* as claimed. The heat spreader 16 of Wills does not comprises a lead or a lead contacting a surface of the housing which also contacts another lead as claimed.

Numerous limitations of claim 63 are not disclosed nor suggested by the art and claim 63 is allowable for at least this reason. In addition, the Office cites teachings of Wills on page 4 of the Action which allegedly disclose limitations of the claimed device of claim 63. However, on page 4 of the Action, teachings are identified which do not correspond to limitations of claim 63. For example, no teachings are identified which allegedly disclose

the claimed plural leads or the claimed common surface. In accordance with the above-recited CFR authority, Applicant respectfully requests issuance of a non-final action by the Office if claim 63 is not allowed so Applicant may appropriately respond during the prosecution of the present application.

The claims which depend from independent claim 63 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

The Office recites teachings on page 3 of the Action in support of the rejection of claim 69. However, the teachings identified by the Office fail to correspond to limitations of claim 69 or disclose or suggest limitations of claim 69. Claim 69 clearly recites the *semiconductor die comprising memory circuitry*. Wills is void of any disclosure or suggestion of reference 14 comprising memory circuitry. Applicant has electronically searched Wills and has *failed to locate any reference to memory in the entire Wills reference*. Limitations of claim 69 are not disclosed by Wills and claim 69 is allowable for at least this reason.

In addition, Wills fails to disclose or suggest the claimed first and second housings of claim 69. In particular, the Office cites references 30 and 34 as allegedly disclosing the claimed housing. However, claim 69 clearly recites a *first housing enclosing the semiconductor die and the second housing enclosing the first housing and at least partially enclosing the heat sink*. If 34 is considered by the Office to be the second housing, then in no fair interpretation may reference 30 be considered to enclose the die as claimed. If

34 is considered to be the first housing, there is no teaching or suggestion of reference 30 enclosing reference 34. Accordingly, regardless of the how references 30, 34 of Wills are interpreted by the Office, such interpretations fail to disclose or suggest limitations of claim 69 and claim 69 is allowable for at least this reason.

Finally, Wills is void of any disclosure or suggestion of the *heat spreader 16 configured to release heat outside of the housing* as claimed. To the contrary, as shown in Figs. 3-4, heat spreader 16 is entirely enclosed by reference 34 and in no fair interpretation may be configured to release heat outside of the housing as claimed.

Numerous limitations of claim 69 are not disclosed nor suggested by the art and claim 69 is allowable for at least this reason. In accordance with the above-recited CFR authority, Applicant respectfully requests issuance of a non-final action by the Office if claim 69 is not allowed so Applicant may appropriately respond during the prosecution of the present application.

Referring to claim 70, the teachings relied upon on page 3 of the Action fail to disclose or suggest limitations of the claimed device and claim 70 is allowable for at least this reason. Wills is void of any disclosure or suggestion of reference 14 comprising memory circuitry. In addition, Wills fails to disclose or suggest the claimed first and second housings of claim 70. Regardless of how they are interpreted, references 30 and 34 fail to disclose or suggest the claimed *first housing enclosing the semiconductor die and the second housing enclosing the first housing and the heat sink*. Finally, Wills is void of



any disclosure or suggestion of the *heat spreader 16 configured to release heat outside of the housing* as claimed.

Numerous limitations of claim 70 are not disclosed nor suggested by the art and claim 70 is allowable for at least this reason. In accordance with the above-recited CFR authority, Applicant respectfully requests issuance of a non-final action by the Office if claim 70 is not allowed so Applicant may appropriately respond during the prosecution of the present application.

Referring to claim 73, the device recites the *heat sink comprising leads extending outward of the housing and configured to release heat outside the housing*. References 32 and 16 are indicated as disclosing the claimed heat sink. It is clear from Figs. 3 and 4 of Wills that entireties of references 16, 32 are enclosed by reference 34 and no portions thereof extend outward of the housing as claimed. Reference 20 is identified as a lead frame providing *electrical connection* in Wills and is not disclosed as providing any heat dissipation and may not be fairly construed to comprise a lead of a heat sink as claimed. In addition, Wills fails to teach or suggest the claimed *first housing enclosing the semiconductor die and the second housing enclosing the first housing*. Numerous limitations of claim 73 are not disclosed nor suggested by the prior art and claim 73 is allowable for at least this reason.

Numerous limitations of claim 73 are not disclosed nor suggested by the art and claim 73 is allowable for at least this reason. In accordance with the above-recited CFR authority, Applicant respectfully requests issuance of a non-final action by the Office if

claim 73 is not allowed so Applicant may appropriately respond during the prosecution of the present application.

The claims which depend from independent claim 73 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Applicant hereby adds new claims 75-77 which are supported by Figs. 2 and 8-11 and the associated specification teachings of the originally filed application.

Applicant respectfully requests allowance of all pending claims.

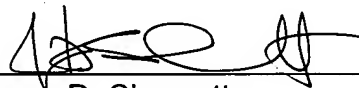
The Examiner is requested to phone the undersigned if the Examiner believes such would facilitate prosecution of the present application. The undersigned is available for telephone consultation at any time during normal business hours (Pacific Time Zone).

Respectfully submitted,

Dated: \_\_\_\_\_

2/7/05

By: \_\_\_\_\_



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